

Claims

1. Crystalline or semi-crystalline trehalose solids characterized in that
 - a) Said solids have a specific surface area greater than $0.25 \text{ m}^2/\text{g}$, preferably greater than $0.30 \text{ m}^2/\text{g}$, more preferably a specific surface area of at least $0.40 \text{ m}^2/\text{g}$, and
 - b) Said solids contain a crystal form selected from the group consisting of trehalose dihydrate and mixtures of trehalose dihydrate and anhydrous trehalose
2. Trehalose solids according to claim 1 characterised in that said solids have an average particle size greater than $100 \text{ }\mu\text{m}$, preferably greater than $150 \text{ }\mu\text{m}$, preferably greater than $200 \text{ }\mu\text{m}$, more preferably greater than $250 \text{ }\mu\text{m}$.
3. A process for preparing crystalline or semi-crystalline trehalose solids containing a crystal form selected from the group consisting of trehalose dihydrate and mixtures of trehalose dihydrate and anhydrous trehalose and having a specific surface area greater than $0.25 \text{ m}^2/\text{g}$, preferably greater than $0.30 \text{ m}^2/\text{g}$, more preferably a specific surface area of at least $0.40 \text{ m}^2/\text{g}$ and said process is comprising the following steps:
 - a) Heating a solution of trehalose above its temperature of solubility,
 - b) Applying shear and cooling for obtaining trehalose solids, and
 - c) Optionally drying of trehalose solids.
4. A process according to claim 3 characterised in that in step a) solution of trehalose is an aqueous solution.
5. A process according to claim 4 characterised in that said aqueous solution is prepared from trehalose and at least 5% water based on dry substance of trehalose.
6. A process according to anyone of claim 3 to 5 characterised in that temperature of solubility is at least 80°C .

7. Use of crystalline or semi-crystalline trehalose solids containing a crystal form selected from the group consisting of trehalose dihydrate and mixtures of trehalose dihydrate and anhydrous trehalose and having a specific surface area greater than 0.25 m²/g, preferably greater than 0.30 m²/g, more preferably a specific surface area of at least 0.40 m²/g, in food applications, feed, pharma applications, cosmetics, detergents, fertilizer or agrochemical products.

8. Use according to claim 7 characterised in that said trehalose solids are applied as cryoprotectant.

9. Use according to claim 7 characterised in that said trehalose solids are applied as carrier.

10. Use according to claim 7 characterised in that said trehalose solids are applied as tablets or as binder in tablet formation.

11. Products for ingestion by humans or animals and containing the crystalline or semi-crystalline trehalose solids according to claims 1 or 2.

12. Products for detergents, cosmetics, fertilizers or agrochemicals and containing the crystalline or semi-crystalline trehalose solids according to claims 1 or 2.

13. Tablets containing crystalline or semi-crystalline trehalose solids containing a crystal form selected from the group consisting of trehalose dihydrate and mixtures of trehalose dihydrate and anhydrous trehalose, and having a specific surface area greater than 0.25 m²/g, and wherein said tablets have a tensile strength of at least 4 N/mm², preferably of at least 5 N/mm², more preferably more than 7 N/mm².